

Chapter 4: Summaries of Risk and Preparedness

4 Overview

4.1 Wildfire Characteristics

An informed discussion of fire mitigation is not complete until basic concepts that govern fire behavior are understood. In the broadest sense, wildland fire behavior describes how fires burn; the manner in which fuels ignite, how flames develop and how fire spreads across the landscape. The three major physical components that determine fire behavior are the fuels supporting the fire, the topography in which the fire is burning, and the weather and atmospheric conditions during a fire event. At the landscape level, both topography and weather are beyond our control. We are powerless to control winds, temperature, relative humidity, atmospheric instability, slope, aspect, elevation, and landforms. It is beyond our control to alter these conditions, and thus impossible to alter fire behavior through their manipulation. When we attempt to alter how fires burn, we are left with manipulating the third component of the fire environment, the fuels which support the fire. By altering fuel loading and fuel continuity across the landscape, we have the best opportunity to determine how fires burn.

A brief description of each of the fire environment elements follows in order to illustrate their effect on fire behavior.

4.1.1 Weather

Weather conditions are ultimately responsible for determining fire behavior. Moisture, temperature, and relative humidity determine the rates at which fuels dry and vegetation cures, and whether fuel conditions become dry enough to sustain an ignition. Once conditions are capable of sustaining a fire, atmospheric stability and wind speed and direction can have a significant affect on fire behavior. Winds fan fires with oxygen, increasing the rate at which fire spreads across the landscape. Weather is the most unpredictable component governing fire behavior, constantly changing in time and across the landscape.

4.1.2 Topography

Fires burning in similar fuel conditions burn dramatically different under different topographic conditions. Topography alters heat transfer and localized weather conditions, which in turn influence vegetative growth and resulting fuels. Changes in slope and aspect can have significant influences on how fires burn. Generally speaking, north slopes tend to be cooler, wetter, more productive sites. This can lead to heavy fuel accumulations, with high fuel moistures, later curing of fuels, and lower rates of spread. The combination of light fuels and dry sites lead to fires that typically display the highest rates of spread. In contrast, south and west slopes tend to receive more direct sun, and thus have the highest temperatures, lowest soil and fuel moistures, and lightest fuels. These slopes also tend to be on the windward side of mountains. Thus these slopes tend to be “available to burn” a greater portion of the year.

Slope also plays a significant roll in fire spread, by allowing preheating of fuels upslope of the burning fire. As slope increases, rate of spread and flame lengths tend to increase. Therefore, we can expect the fastest rates of spread on steep, warm south and west slopes with fuels that are exposed to the wind.

4.1.3 Fuels

Fuel is any material that can ignite and burn. Fuels describe any organic material, dead or alive, found in the fire environment. Grasses, brush, branches, logs, logging slash, forest floor litter, conifer needles, and home sites (the structures) are all examples. The physical properties and characteristics of fuels govern how fires burn. Fuel loading, size and shape, moisture content and continuity and arrangement all have an affect on fire behavior. Generally speaking, the smaller and finer the fuels, the faster the potential rate of fire spread. Small fuels such as grass, needle litter and other fuels less than a quarter inch in diameter are most responsible for fire spread. In fact, “fine” fuels, with high surface to volume ratios, are considered the primary carriers of surface fire. This is apparent to anyone who has ever witnessed the speed at which grass fires burn. As fuel size increases, the rate of spread tends to decrease, as surface to volume ratio decreases. Fires in large fuels generally burn at a slower rate, but release much more energy, and burn with much greater intensity. This increased energy release, or intensity, makes these fires more difficult to control. Thus, it is much easier to control a fire burning in grass than to control a fire burning in timber. Fuels are found in combinations of types, amounts, sizes, shapes, and arrangements. It is the unique combination of these factors, along with the topography and weather, which determine how fires will burn.

The study of fire behavior recognizes the dramatic and often-unexpected affect small changes in any single component has on how fires burn. It is impossible to speak in specific terms when predicting how a fire will burn under any given set of conditions. However, through countless observations and repeated research, the some of the principles that govern fire behavior have been identified and are recognized.

4.1.4 Firefighter Accidents

The United States currently depends on approximately 1.2 million firefighters (municipal and wildland) to protect its citizens and property from losses caused by fire. Of these firefighters, approximately 210,000 are career/paid and approximately 1 million are volunteers. The National Fire Protection Association (NFPA) and the U.S. Fire Administration estimate that on average, 105 firefighters die in the line of duty each year (NIFC 2005).

Due to the growing number of homes in the wildland/urban interface, it is almost inevitable that wildland and structural firefighters will find themselves in dangerous role reversals for which they may not be adequately trained or equipped. For example, wildland firefighters may be called on to protect threatened homes, and structural firefighters may be called on to help battle the surrounding blazes in the wildlands.

In addition to the obvious difference of size, wildland fires and structure fires differ in that wildland fires require:

- more personnel, some of whom may have little or no fire fighting experience
- more resources spread out over a larger area.

Because of these factors, wildland fires present personal safety concerns to three areas:

- the firefighter
- the area immediately surrounding the firefighter
- the overall environment of the fire itself.

The most direct way to improve the safety of both structural and wildland firefighters is cross-training of all firefighters and improved equipment. While cross-training is being done in some

regions throughout the country, it is still not standard practice everywhere. Until cross-training programs become universal, awareness may be the tool that saves lives.

Of the 1,046 firefighters who died while on duty from 1987 through 1996, 163 (15.6%) died while fighting wildland fires. The number of deaths was generally between 12 and 22 per year, with the exception of seven deaths in 1993 and 1996, and 33 deaths in 1994. Over the period, 23.6% of all fire ground deaths occurred at wildland fires (Firewise 2005).

This analysis includes members of municipal fire departments who responded to grass, brush and forest fires within their jurisdictions as well as career, seasonal and contract employees of state and federal wildland agencies who were involved in assigned firefighting activities at the time there were fatally injured (Firewise 2005). The federal wildland agencies include the U.S. Forest Service, the Bureau of Indian Affairs, the Bureau of Land Management, the Fish and Wildlife Service, the National Park Service and the military.

The 163 victims (1987-1996) ranged in age from 15 to 83, with a median age of 34. Fourteen of the victims were women. Approximately 70% of all wildland fire deaths (114) occurred during fire suppression activities. Another 49 deaths occurred when firefighters were responding to or returning from such fires.

4.1.4.1 Deaths on the Fire Ground

The largest proportion of deaths during fire suppression activities resulted from being caught or trapped by fire progress. Twenty-five of these 38 firefighters died of smoke inhalation; the other 13 died as a result of burns. Fourteen of these 38 deaths occurred in a single incident in 1994.

Wildland fire deaths by nature of fatal injury, more commonly referred to as the medical cause of death, is important to understanding this issue. State and federal wildland officials believe that their rigorous fitness requirements lower the risk of heart attack death among firefighters under their jurisdiction. For this analysis, then, the fire ground deaths were broken down by type of department municipal (career or volunteer) or wildland agencies. A profile of the 114 fire ground victims shows that 50 were members of municipal fire departments (44 were volunteer firefighters and six were career firefighters). The other 64 firefighters were career, seasonal or contract employees of state and federal wildland agencies, or military personnel.

4.1.4.2 Municipal Firefighters

As shown in Table 3.6, heart attacks accounted for over half of the deaths of municipal firefighters during fire ground operations, while most of the deaths of state and federal employees were due to internal trauma, asphyxiation and burns.

Of the 17 municipal heart attack victims for whom medical documentation was available, nine had had prior heart attacks or bypass surgery, three had severe arteriosclerotic heart disease, three had hypertension and one was diabetic. The municipal volunteer firefighters who suffered fatal heart attacks ranged in age from 27 to 83, with a median age of 58. The one wildland agency firefighter who died of a heart attack was 38 years old and had severe arteriosclerotic heart disease.

The lower proportion of heart attacks among wildland agency firefighters may be a result of stricter fitness requirements, but it could also be a function of age. Older firefighters are more likely to suffer heart attacks and if the wildland agencies employ a significantly lower percentage of old firefighters, their experience would reflect this. Looking at all fire ground deaths, municipal vs. wildland agencies, the ages of wildland firefighters who died ranged from 18 to 64, with a median age of 32 years, while volunteer municipal firefighters ranged in age from 18 to 83, with

a median age of 50. The six career municipal firefighters ranged in age from 20 to 49, with a median age of 29. Other factors besides age and fitness requirements that may impact the incidence of heart attack deaths at wildland fires include the equipment provided. In many of the incidents handled by municipal firefighters, those involved in fighting the fire did so in full protective clothing designed for structural firefighting, while wildland firefighters wear clothing, helmets and boots more appropriate to outdoor work (Firewise 2005).

Table 4.1. Wildland firefighter deaths on the fire ground by nature of Fatal Injury 1987-1996.

Fatality Cause	Federal and State Wildland Agencies	Municipal		Total
		Volunteer	Career	
Heart attack	1	27	0	28
Internal trauma	24	3	1	28
Asphyxiation	23	2	0	25
Burns	9	4	3	16
Crushing	4	4	0	8
Electric shock	1	2	0	3
Heat stroke	0	1	2	3
Stroke	2	0	0	2
Bleeding	0	1	0	1
Total	64	44	6	114

As far as the other types of injuries suffered on the fire ground are concerned, increased use of fire shelters could result in a reduction in fatal burns and smoke inhalation deaths and safer handling of aircraft could reduce the number of deaths due to aircraft crashes during suppression activities.

4.1.4.3 Deaths While Responding to or Return from Alarms

Of the 163 wildland-related deaths that occurred between 1987 and 1996, 49 occurred when firefighters were responding to or returning from such fires. Thirty four of the 49 deaths were the result of vehicle crashes, 12 were heart attacks, one firefighter was crushed when a tree fell on the crew area of a moving truck, one firefighter was crushed between two pieces of apparatus while he attempted to start the rear-mounted pump in preparation for response to an incident and one firefighter drowned at a base camp after returning from the fire line.

The 34 deaths in crashes occurred in 25 separate incidents. Ten contractors and four federal employees were killed in six aircraft crashes. Eleven firefighters were killed in 10 crashes involving tankers, and five firefighters were killed when their personal vehicles crashed. The remaining four deaths resulted from crashes involving an engine, a brush unit, a supply vehicle and a military vehicle.

The 12 heart attack victims included eight municipal firefighters, three forestry employees and one contractor. Five of the 12 firefighters had had prior heart attacks or bypass surgery, one had severe arteriosclerotic heart disease and one was diabetic. No medical information was available for the other five heart attack victims.

4.1.4.4 Idaho State Fatalities

Within Idaho State, wildland fire injuries have been documented by the National Interagency Fire Center (2005) and are summarized in Table 4.2. From 1932-2003, there have been 122 fatalities during 43 incidents involving significant injuries. Burn over and entrapments are common themes in the listed fatalities. In order to reduce the risks to firefighters responding to wildland fire events, these issues must be addressed and eliminated.

Table 4.2. Wildfire accidents reported in Idaho, 1910-2003.

Year	Place	Type of Accident	Organization	Fatalities
1910	Coeur d'Alene	Burnover	Federal	72
1910	Pend Oreille NF	Burnover	Federal	2
1934	Pierce	Snag	Federal	2
1934	Sand Point	Burnover	Federal	1
1935	Clearwater NF	Snag	Federal	1
1939	Emida	Burnover	Federal	1
1939	Priest River	Burnover	Federal	1
1939	Priest River	Snag	Federal	1
1939	Riggins	Burnover	Federal	1
1940	Boise	Burnover	Federal	1
1940	Priest River	Burnover	Federal	1
1940	Salmon	Burnover	Federal	1
1943	Rogers	Burnover	Unknown	2
1944	McCall	Heart Attack	Federal	1
1946	Council	Snag	Federal	1
1949	McCall	Burnover	Federal	1
1949	McCall	Burns	Federal	1
1961	Clearwater NF	Snag	Federal	1
1961	Nez Perce NF	Burnover	Federal	2
1965	McCall	Smokeyjumper Aircraft	Federal	2
1972	Harris Ridge	Suffocation	Other	2
1974	Boise	Aircraft Collision on Runway	Contractor/Federal	1
1978	Shoshone	Engine Rollover	Federal	1
1979	Salmon NF	Burnover	Federal	1
1981	Paul	Aircraft	Federal	3
1986	Boise NF	Vehicle	Federal	4
1988	Bellevue	Vehicle Rollover	Private	1
1989	Nez Perce NF	Drowning	Federal	1
1992	Cascade	Snag	Federal	1
1994	Boise NF	Vehicle	Federal	1
1994	Payette NF	Helicopter	Military	1
1995	Kuna	Engine Burnover	Volunteer	2
1998	Cascade	Vehicle	Contractor/Federal	2
1998	Not Reported	Burns	Federal	0
2000	Salmon	Engine Entrapment	Federal	0
2001	Lewis County	Single Engine Airtanker	Contractor	1
2002	Deary	Engine Rollover	State	0

Table 4.2. Wildfire accidents reported in Idaho, 1910-2003.

Year	Place	Type of Accident	Organization	Fatalities
2002	Deary	Work Capacity Test	Contractor	1
2002	Moscow	Dozer Rollover	Private	1
2003	Grangeville	Heart Attack	State	1
2003	Inkom	Vehicle Rollover	Volunteer	1
2003	Salmon	Entrapment	Federal	2

(National Interagency Fire Center 2005)

4.2 Ada County Conditions

Ada County encompasses 1,060 square miles of land in the heart of Idaho and is subject to range fires every year that destroy forage and ground cover. Most fires are confined to an area of less than 500 acres. Approximately half of these fires are caused by dry lightning storms, with the other half being human actions or undetermined causes.

In 1992, five lightning fires combined to blacken 257,000 acres of rangeland in and around Ada County. Vulnerability is steadily increasing as more dwellings are constructed in the foothills adjacent to range lands. In July of 1995, a range fire with wind gust of over 40 miles an hour took the lives of two Kuna firefighters. On August 26, 1996 a human caused wildfire was ignited in the Boise foothills. The temperature was 104 degrees and the winds reached 30 mph. On September 2, the fire was contained after burning 15,300 acres of land.

The diversity in landscape provides habitat for a number of rangeland and forest plant species, as well as providing opportunities for agricultural crop production.

Land ownership throughout the County is a mix of private, state, BLM and U.S. Forest Service. Ada County is home to the largest concentration of people in the state in the city of Boise and surrounding communities. However, there is a clear demarcation between urban areas and rural areas, which may be at risk to wildfire. Much of the rural land in Ada County is managed in support of the ranching and agricultural economy of the area. Domestic livestock graze many of the areas that are not actively cultivated for hay or cash crops.

4.2.1 Vegetative Associations

Ada County lies in the vegetative ecosystem known as the sagebrush steppe community. The Sagebrush Steppe Ecosystem is widespread over much of southern Idaho, eastern Oregon and Washington, and portions of northern Nevada, California and Utah. The southern Idaho portion of this ecosystem occurs over a variety of land forms and vegetation types. Native vegetative communities range from vast expanses of annual grasslands resulting from recent fires, to old-growth sagebrush communities.

The steppe is characterized by a persistently warm and arid environment that limits noncultivated vegetative communities to grass and brush rangelands. Xeric vegetation and hot, dry and windy conditions have resulted in a rich fire history, with relatively frequent fires. The last decade has seen the proliferation of Cheatgrass (*Bromus tectorum* L.), an exotic grass species that is able to out-compete native bunchgrasses. Cheatgrass responds well to soil disturbance and is found in abundance along roadsides, driveways, new construction areas, and in recently burned areas. Over time, vegetative species composition in unmanaged or non-irrigated land has shifted toward fire prone species, particularly in high use areas where disturbance is common.

Fuels

Wildland fuels vary throughout the Ada County. Fuel composition and distribution is dependent on aspect, elevation, management practices and time since last burned. Perennial bunch grasses and cheatgrass dominate areas that have been disturbed by recent fires, while heavy sage, bitterbrush and rabbitbrush are present on north and east aspects that have not burned in the last decades. Areas dominated primarily by grass with scattered sage can be described as Fuel Models 1 or 2 (FM1 and FM2). Fires in these fuel types tend to spread very rapidly, especially when pushed by wind. Sage-dominated fuel complexes can be described as FM5 (for a complete discussion of fuel models, turn to 3.9.5). Fires in all fuel types found throughout the county can spread rapidly, especially when driven by the wind or when burning in areas with steep slopes. Thousands of acres can burn after only a single hour in grass and brush fuels. In heavy brush fires can travel at over eight miles an hour with flame lengths in excess of 50 feet. Fires of this intensity are nearly impossible to control with suppression resources, requiring a change in weather in order to allow crews and support equipment to gain the upper hand.

Agricultural areas in grain crops can be described as either FM 1, 2 or 3, depending on stage in agricultural production. During the period while grain crops are cured prior to harvest, the mature crops are similar to tall grass (FM 3, greater than 2.5 feet in height). Fires in this fuel type tend to spread very rapidly with large flame lengths. Post harvest fuels are more typical of FM1, as residual harvest stubble is typically less than 1 foot in height. Flame lengths and rates of spread are reduced in the post-harvest condition. However, fires in these fuels can still spread quite rapidly and generate moderate flame lengths. Fuels between 1 foot and 2.5 feet can be described as FM2. However, the large flame lengths and high intensities these fires generate can be very threatening to homes and safety. Fires prior to harvest can also result in significant economic loss.

Fire behavior and fire regimes have been altered due to the proliferation of cheatgrass throughout Ada County and the entirety of the Great Basin. The fine structure and its ability to completely dominate disturbed sites provide a dry, consistent fuel bed for fire. Where the exotic has encroached in sagebrush stands, it now provides a consistent bed of fine fuels that actively carry fire without the effects of wind. Because of these characteristics, cheatgrass will support fire under conditions which native vegetation would not sustain wildland fire.

Cheatgrass has taken over more than 50% of the Snake River Birds of Prey National Conservation Area in the southern portion of the county, with detrimental effects to native flora and wildlife. Cheatgrass can reduce the fire recurrence interval in sagebrush grasslands dramatically, from 20 to 100 years for a natural cycle, to three to five years on cheatgrass-dominated sites. Continued natural and human-caused disturbances county-wide will favor cheatgrass, shifting species composition away from native species toward this highly flammable exotic. As a consequence, the landscape throughout Ada County will become increasingly fire prone over time unless management actions are taken.

4.2.1.1 Ignition Profile

The dry climate, xeric vegetation, and prevalence of hot and windy conditions in Ada County create environmental and vegetative conditions that will sustain fire spread for many months of the year. This increases the probability that ignition sources from both natural (lightning) causes and human causes will find a receptive fuel bed. Natural ignitions are most likely to occur during summer lightning storms over the high ridges and undeveloped areas throughout the County. Lightning strikes in light fuels are frequently quickly extinguished if precipitation accompanies the storm. However, during dry lightning events, storm cells can ignite dozens of fires throughout the County.

Human ignitions can stem from numerous activities, including debris burning, fireworks,

cigarettes, and campfires, particularly around the reservoirs and recreational trails where recreation use is concentrated. Included in human ignition sources are fires sparked by vehicles, welding construction practices, hot catalytic converters, and arson. By some accounts, arson is responsible for over half of the wildland fires experienced in Ada County (Ada Co. Wildfire Response Plan). There is a strong correlation between human habitation and fire occurrence. The high population density in the area dramatically augments the human ignition potential.

Further contributing to ignition sources are the numerous high tension and residential power lines that crisscross the county. Downed lines, malfunctioning transformers or even electrocuted birds can spark fires anywhere in the county. All these potential ignition sources and the dry nature of vegetation in Ada County increase the potential for fire occurrence.

4.3 Ada County's Wildland-Urban Interface

Individual community assessments have been completed for all of the populated places in the county. The following summaries include these descriptions and observations. Local place names identified during this plan's development include:

Table 4.3. Ada County Communities

Community Name	Planning Description	Vegetative Community	National Register Community At Risk? ¹
Boise	City	Rangeland	Yes
Star	Community	Rangeland	Yes
Garden City	City	Rangeland	Yes
Kuna	Community	Rangeland	Yes
Mora	Community	Rangeland	No
Meridian	City	Rangeland	Yes
Eagle	City	Rangeland	Yes
Swan Falls	Community	Rangeland	No
Orchard	Remnant	Rangeland	No

¹Those communities with a "Yes" in the National Register Community at Risk column are included in the Federal Register, Vol. 66, Number 160, Friday, August 17, 2001, as "Urban Wildland Interface Communities within the vicinity of Federal Lands that are at high risk from wildfires". All of these communities have been evaluated as part of this plan's assessment.

Site evaluations on these communities are included in subsequent sections. The results of FEMA Hazard Severity Forms for each community are presented in Appendix II.

4.3.1 Mitigation Activities Applicable to all Communities

4.3.1.1 Home site Evaluations and Creation of Defensible Space

A critical factor in determining whether a home, ranch or outbuilding will survive a wildland fire is the type, amount and maintenance of vegetation around the house. Vegetative management practices designed to reduce the wildland fire threat to homes are commonly referred to as "Creation of Defensible Space." Educating the homeowners in techniques for protecting their homes is critical in these hot, dry environments.

Defensible space refers to the area between a house and an oncoming wildfire where the vegetation has been modified to reduce the wildfire threat and to provide an opportunity for firefighters to effectively defend the home. The vegetation surrounding a home, whether it be

native plants, ornamental shrubs, or dry grass and weeds, is potential wildfire fuel. If properly managed, landscaping features around a home can greatly reduce the probability of a range fire transitioning to a structural fire. Increasing moisture content of vegetation, decreasing the amount of flammable vegetation, reducing plant height, and altering plant arrangement are all effective techniques used in creation of defensible space. In many cases, maintaining a green, well-irrigated lawn around the home is a very effective means of reducing the risk of fire spreading to the home.

The size of the defensible space is expressed as the distance extending outward from the outside walls of the home. This distance varies by the types of vegetation growing near the home and the steepness of the terrain. Generally speaking, most wildland fuels in the vicinity of homes in Ada County are grass fuels with widely scattered shrubs. In such fuels, a defensible space of at least 100 feet is recommended. In areas of dense shrubs with steep slopes, this distance may be 200 feet or greater. Exact distances will depend on specific site attributes of individual properties.

Creating defensible space not only keeps wildland fires from spreading to the home, but prevents fires originating within the home or outbuildings from spreading to pasture, crop and rangelands. Sparks from welding and other machine work can easily ignite dry grasses and spread to wildlands.

Debris burning can also serve as an ignition source, especially during the windy conditions typical in the Ada County region. Ensure the presence of an adequate non-flammable firebreak around burn barrels or bone yards. Account for potential spread of firebrands under the influence of strong winds.

In addition to creating defensible space, there are a number of other home attributes that will influence its survivability in the event of a wildland fire. The following recommendations will further enhance home defensibility and the probability of home survival.

Roof:

- Remove dead branches overhanging the roof. Remove dead leaves and needles from the roof and gutters. Install a fire resistant roof of composite or metal materials.

Construction:

- Build away from ridge tops and canyons, and saddles along ridgelines.
- Use fire resistant building materials.
- Enclose undersides of balconies and decks with fire resistant materials.

Yard:

- Stack woodpiles at least 30 feet away from all structures and clear flammable vegetation at least 10 feet away from woodpiles.
- Locate LPG tanks at least 30 feet from any structure and surround them with 10 feet of non-combustible fire break.
- Clear around burn barrels at least 10 feet. Cover the open top with non-flammable screen no larger than ¼ inch mesh.

Emergency Water Supply:

- Maintain an emergency water supply that meets fire department standards through an emergency storage supply of at least 2,500 gallons.
- Clearly mark all emergency water sources and notify local fire department of their existence.
- Assure emergency water supplies are easily accessed by firefighters.

Access:

- Construct roads and driveways that allow for two-way traffic.
- Design road width, grade, and curves to allow access for large emergency vehicles.
- Design bridges to carry heavy emergency vehicles.
- Post clear road signs to show traffic restrictions such as dead-end roads, and weight and height restrictions.
- Make sure dead-end roads and driveways have turnaround areas wide enough for emergency vehicles,
- Create defensible space along roads and driveways in order to allow ingress and egress.
- Post house address at the beginning of the driveway or on the house if easily visible from the road.

4.3.1.2 Travel Corridor Fire Breaks

Ignition points are likely to continue to be concentrated along the roads and railway lines that run through the county. These travel routes have historically served as the primary source of human-caused ignitions in Ada County. In areas with high concentrations of resource values along these corridors, roadside management techniques may be considered in order to provide a fire break in the event of a roadside ignition. In areas where cultivated cereal crops or other fire-prone agricultural crops abut roadways, disk or plow lines parallel to the roadway provide bare mineral soil fire breaks that help keep roadway ignitions from transitioning into fires that destroy crops, threaten homes, and move into the wildlands.

Alternatively, permanent fuel breaks can be established in order to reduce the potential for ignitions originating from the highway to spread into the surrounding lands. Application of a cheatgrass-specific herbicide such as Plateau followed by replanting with fire-resistant grass species such as Crested Wheatgrass provides a longer-term firebreak.

Many foothills fires have historically originated from roadside ignitions along busy travel routes. These fires have degraded habitat quality in many areas managed by the Idaho Department of Fish and Game. These fires also threaten a number of other resource values as well as firefighter and public safety. Roadside treatments along the foothills could help to reduce the occurrence of fires in the area.

In combination with these efforts, or in place of these efforts, concentrated livestock grazing within a corridor paralleling these travel routes is suggested; especially along Interstate 84. This effort will require cooperation between landowners, land managers, the Ada County Cattlemen's Association, and individual ranchers to accomplish. In practice, this recommendation will necessitate the construction of temporary or permanent fencing outside of the right-of-way adjacent to the highway, parallel to the existing fence line which parallels the interstate, approximately 500 feet to 1,000 feet away (or more). By segmenting the corridor into smaller units (½ mile to 1 mile long), intensive cattle grazing of the fine fuels in this area during the late spring and summer may reduce the probability of human created ignitions (and lightning ignited fires) from spreading rapidly to the rangeland where cities, towns, and communities (people) are located. This option will require ranchers to supplement feed, to truck water and to manage water-troughs intensively by moving them as the browse (fine fuels) is removed.

This latter option is not without potential negative impacts. Some have suggested that cattle may introduce or increase the spread of noxious weeds, have negative impacts on riparian areas, or negatively impact certain threatened or endangered species. Obviously, these concerns need to be addressed during the implementation of this type of fuels mitigation

treatment. Also, it is important to note that this type of treatment has not specifically been researched as a fire mitigation tool. That fact, however, does not negate the empirical observations of many land managers who have observed (and fought) wildfires in rangelands where livestock graze and a decrease in intensity and even the rate of fire spread is seen. We urge willing land owners and willing ranchers to cooperate in this effort to ascertain if this wildland fire mitigation treatment is a feasible treatment option or not.

4.3.1.3 Power Line and Pipeline Corridor Fire Breaks

The treatment opportunities specified for travel corridor fire breaks apply equally for power line and pipeline corridors. The obvious difference between the two is that the focus area is not an area parallel to and adjacent to the road, but instead focuses on the area immediately below the infrastructure element.

4.3.1.4 Prevention and Education

The safest, easiest, and most economical way to mitigate unwanted fires is to stop them before they start. Generally, prevention actions attempt to thwart human-caused fires. Campaigns designed to reduce the number and sources of ignitions can be quite effective. Prevention campaigns can take many forms. Traditional “Smokey Bear” type campaigns that spread the message passively through signage can be quite effective. Signs that remind citizens of the dangers involving careless use of fireworks, burning when windy, and leaving campfires unattended can be quite effective.

Slightly more active prevention techniques may involve mass media, such as radio or the local newspaper. Fire districts in other counties have contributed the reduction in human-caused ignitions by running a weekly “run blotter,” similar to a police blotter, each week in the paper. The blotter briefly describes the runs of the week and is followed by a weekly “tip of the week” to reduce the threat from wildland and structure fires. When fire conditions become high, brief public service messages could warn of the hazards of misuse of fire or any other incendiary device. Such a campaign would require coordination and cooperation with local media outlets. However, the task is likely to be worth the effort, given the high costs and risks associated with fighting unwanted fires.

Local fire districts, the BLM, Forest Service, IDL, Idaho Fish and Game and other entities have been active in fire prevention outreach campaigns throughout the county. Boise City Fire, North Ada County Fire and Rescue and the BLM have been active in public outreach campaigns in the Boise foothills. As of yet, the campaigns have been moderately successful in initiating change in landscaping techniques or building design throughout the area. However, the efforts do raise public awareness of the interface issue facing residents in fire prone areas. Raising awareness is the first step in adopting a Firewise home site. The construction of the new Foothills Environmental Learning Center at Hulls Gulch will provide another excellent venue for public education regarding fire safety and home defensibility as well as foothills ecology and recreational activities.

4.3.1.5 Building Codes

The most effective, albeit contentious solution to some fire problems is the adoption and enforcement of building codes in order to assure emergency vehicle access, water availability and Firewise home construction. Ada County has active in establishing codes that require vegetation management, access requirements and water availability standards in areas within the wildland-urban interface overlay district. However, codes are ineffective unless they are

actively enforced by the responsible officials. County building inspectors should look to the fire departments in order to assure adequate minimum standards are being followed in areas of new development. Adoption of the National Fire Protection Association (NFPA) Code 1144, Standard for Protection of Life and Property from Wildfire, outline standards that are favorable for fire suppression activities in wildland areas. These standards should be adopted and enforced county-wide.

Ada county has adopted building codes for the highest fire risk area in the county, the Boise foothills. These codes have been recognized in federal GAO reports (GAO-05-380) as examples of a county taking a proactive stance to reduce the impacts of wildland fire.

4.3.1.5.1 Current Ada County Wildfire related Building Codes

Title: Ada County, ID - Zoning Overlay District

Type: Regulatory

Jurisdiction: County

State: Idaho

Program Description: Ada County, Idaho has adopted into its Zoning and Building Codes wildfire prevention provisions. Ada County has mapped its High Hazard Area and delineated it as a Wildland-Urban Fire Interface Overlay District with specific requirements for building construction and defensible space. The building requirements, are listed in section 419.3 – 419.12.3 of the Uniform Building Code of 1997 adopted by Ada County.

Vegetation Management Requirements

The Zoning Code regulations apply to the area within the Overlay District. Any new construction, alteration, moving, or change of use of a habitable structure is required to establish and maintain a minimum 50-foot defensible space around its perimeter. Within this defensible space buffer zone there can be only single specimens of trees or ornamental vegetation, and cultivated ground cover or grasses up to a maximum height of four inches. All deadwood must be removed from trees, and clusters of trees must be thinned so that the crowns do not overlap. Trees must be pruned up to six feet. Areas adjacent to private roads and driveways must be cleared of vegetation. Areas within five feet on either side of driveways must be cleared, and the entire width of the easement of private roads must be cleared. Other regulations in the code address the location of liquefied petroleum gas, firewood, and other combustible materials near structures, road access to subdivisions, length of cul-de-sacs and water supply needs for fire flow.

4.3.1.6 Readiness - Fire Suppression in Ada County

Rapid and aggressive initial attack is the key to keeping economic loss to a minimum. BLM, IDL, US Forest Service and all fire districts throughout Ada County maintain mutual aid agreements with one another. Fire departments, state police, Idaho Transportation Department, Idaho EMS Communications Center as well as a number of other local, state and federal agencies all operate under the Ada County Wildfire Response Plan, facilitating operations during mutual aid events. Departments work closely and train together on an annual basis. Through this training many operational details have been ironed out, increasing safety and effectiveness on mutual aid responses. The scattering of rural resources throughout the county allows for rapid initial attack of most wildland fires regardless of land ownership or fire protection jurisdiction. Quick response by rural forces allows for initial size-up and engagement while BLM forces respond

from districts or staging areas. Many BLM fires are initially attacked by local fire districts. If fires grow beyond the capabilities of the rural initial attack ground forces, BLM aerial resources including helicopters and retardant tankers are utilized in containment efforts. The close working relationship between the BLM and the local fire departments is mutually beneficial and essential for reducing wildfire losses.

Recognizing the beneficial relationship between the federal land management and the local fire departments, the BLM has been very pro-active in assisting local fire departments in purchasing of equipment and training material through the Rural Fire Assistance program. The BLM administers funding appropriated through The Department of the Interior to enhance the fire protection capabilities of local and volunteer fire departments. This occurs through training, equipment purchases, and fire prevention work on a cost-shared basis. The DOI assistance program targets local and volunteer fire departments that routinely help fight fire on or near BLM lands. Grants range from a thousand dollars to a maximum of \$20,000 on a 10% cost share payable through in kind services. Fire departments that have entered into mutual aid agreements with the BLM are eligible for the program. Nearly all departments within the BLM Boise District have mutual aid agreements with the BLM, making them eligible for Rural Assistance funding.

4.4 Communities in Ada County

4.4.1 Individual Community Assessments

The objective of the community assessments is to determine the extent to which wildland fire threatens the safety of people, homes, infrastructure, and other important resources throughout Ada County. Assessing fire risk can be a challenging, as there are numerous individual factors that individually or cumulatively define the overall risk to a community or area. Fuel characteristics, ignition sources, topography, proximity of fire protection resources, emergency vehicle access and egress, home construction, presence or absence of defensible space, and water availability are just some of the factors that determine risk.

The community assessments summarize the factors that have been identified as contributing to risk in a given area. Assessments are based on field observation as well as on discussion with local fire department representatives. By necessity, generalizations need to be made in efforts to assess risk. Each and every home site is unique, as are the characteristics of the home that contribute to its vulnerability to wildland fire. Thus the assessments attempt to capture the “average” condition, while noting attributes that significantly increase wildland fire risk in specific areas.

The assessments are followed by specific recommendations to address high hazard areas. The recommendations outlined in the Community Assessments generally focus on home site or community defensible space. Recommendations targeted at addressing county level policy or increasing fire resource capabilities will be addressed in Chapter 5- Mitigation Recommendations.

Elimination of all risk is not possible, nor is it desirable. Attempts at eliminating all risk would compromise the quality of life that Ada County residents enjoy. Open space, native vegetation, recreation, and biological diversity would be adversely impacted if complete elimination of fire risk were to be the ultimate objective. The mitigation recommendations attempt to reduce risk to people, firefighters, homes and economically important assets at an acceptable level while not compromising the qualities that help define Ada County.

4.4.2 Overall Community Assessments

Homes and structures within and surrounding these communities are at varying degrees of risk. The vast majority of homes and structures are located in urbanized areas where the wildland fire threat is negligible. Homes on the periphery in the wildland-urban interface are at varying degrees of risk. In most cases, the factor determining risk is whether adequate defensible space surrounds the home. Defensible space is the single most important factor in determining whether a home survives a wildland fire event. Where defensible space is absent, the risk to homes escalates dramatically. Home Construction practices further increase this risk. Exposed wood, cedar-shake roofing material and other combustible home attributes dramatically increase ignition probability.

Home defensibility practices can dramatically increase the probability of home survivability. The amount of fuel modification necessary will depend on the specific attributes of the site. Considering the high spread rates typical in these fuel types, homes need to be protected prior to fire ignitions, as there is little time to defend a home in advance of an approaching grass and range fire.

4.4.3 Individual Community Assessments

4.4.3.1 Boise Foothills

The Boise Foothills describe the transitional lands between the arid sagebrush steppe community along the valley floor and the coniferous peaks of the Boise Ridge. Native vegetation is dominated by xeric bunch grasses and sagebrush, broken by narrow stingers of riparian vegetation confined in drainages. Originally used as a target area by the military in the early 1800's, the foothills are now highly valued for a number of open space values, including habitat for rare and endangered plants, habitat and wintering ground for a variety of wildlife, and a critical link to the Rivers to Ridges trail system. The numerous trails that traverse the foothills area provide recreational opportunities for Boise residents, adding to the high quality of life citizens enjoy.

The foothills area is fragmented among various ownerships. Private, federal (including the BLM and Forest Service), and state ownership are interspersed throughout the area. Forty-one thousand acres of the 75,000 acres of land within the Boise Front are within private ownership. Over thirty-three thousand acres of the Boise Front is managed by the Idaho Department of Fish and Game as the Boise River Wildlife Management Area.

Boise's swelling population has increased development pressure along the Front. Boise City and Ada County have experienced unprecedented population growth, with an increase of over 30 percent in the last 15 years. In December, 2000, Boise was experiencing the fourth-fastest growth rate in the nation, adjusted per capita. The rapid growth has fueled a building boom that has pushed residential development further into the canyons and onto the steep slopes along the foothills.

Property in the foothills is highly valued because of its close proximity to both the city center and open space, as well as for the outstanding views foothills residents enjoy. The juxtaposition of open space and residential development elevate the wildfire risk to the area. The potential for home loss due to rapidly spreading fires increases as more and more homes are constructed on steep slopes among dry grass and rangeland fuels.

The wildland fuels throughout the majority of the foothills region is typical of that found throughout Ada County, ranging from light grass fuels to heavy brush concentrations. Fires in all fuel types common in the foothills can spread rapidly, especially when driven by the wind or

when burning in areas with steep slopes. Suppression efforts in the foothills area are complicated by lack of access to the wildland areas as well as to homes and subdivisions. Road access is generally quite limited in the area. Aerial resources such as helicopters and tanker planes are frequently the only means by which to catch a wildland fire.

The greatest fire risk in the Boise Foothills comes from the abundance of potential ignition sources along the periphery of the public lands that provide the backdrop to the city. The xeric nature of the surrounding vegetation and abundance of hot, dry and windy weather greatly increase the probability of an ignition source finding a receptive fuel bed, resulting in fast moving, rangeland fires. The recent fire of July 12, 2004, demonstrates the myriad ignition sources in the foothills area. The 80 acre fire was ignited by a workman grinding a steel gate in dry fuels during hot weather. Rapid initial attack by the Boise City Fire Department and the BLM was successful in containing the fire spread, despite poor access.

The Eighth Street Fire of 1996 demonstrated that human-caused fires originating in publicly managed open space have the potential to rapidly spread throughout the foothills. The Eighth Street Fire began August 26, 1996, in Military Reserve Park north of Boise. The fire quickly spread to several thousand acres pushed by strong southerly winds and record-breaking heat. The fire raced through brush and grassland on steep slopes, eventually burning into timberlands along the Boise Ridge. It was contained on August 30 and controlled on September 2. By then, 15,300 acres adjacent to the city of Boise had been burned.

The Boise Foothills Community Assessment includes all residential development to the north and west of the State Highway 55 and Hill Road junction, along the northern perimeter of the city, staying north of Warm Springs Road, to the junction of State Highway 21. Development patterns vary throughout the foothills area. Most typical are subdivisions and high-density housing developments. Generally speaking, the majority of homes in these settings are at little risk to loss from wildfire, due in large part to residential landscaping and road construction, isolating existing native fuels in small islands. However, where homes on the periphery of these developments abut expanses of dry grass and rangeland fuels, the risk of loss to wildland fire is significantly greater. Areas of unplanned residential development tend to be at a higher risk to loss because of the lack of protection afforded by neighboring green lawns and lower road densities. In some areas, single-family homes are located on steep slopes with continuous native fuels below. Without adequate defensible space, such homes are at significant risk from wildfire.

4.4.3.1.1 North Pierce Park Road

The homes that have been built on the steep hills and ridges of North Pierce Park Road are among the highest risk homes along the Boise Foothills. Multiple homes have been built high on hills, with continuous dry native vegetation below. An ignition at the base of these slopes during the fire season would result in upslope fire runs that would pose a significant threat to these structures.

Most homes have been built with flame-resistant roofing material with some fire-wise landscaping, however exposed wood is common, either as a siding or used in the construction of decks. No hydrant system or dependable water source is readily available in the area.

Access to these homes is poor, with long, single-lane dead-end drives. Turn outs and turn arounds sufficient for large emergency vehicles are absent in most areas. Because of access issues, it is unlikely that some of the homes in this area would be defensible in the event of a wildland fire. Egress from Pierce Park Road is possible via the Cartwright Canyon Road. However, because of the access issues associated with the homes and the abundance of dry,

native vegetation and steep slopes throughout the area, suppression resources would likely need to disengage from structure protection activities well in advance of a fire.

Urban interface issues in this area will continue to escalate as new subdivisions are planned and developed. Without enforcement of building codes designed to address emergency access and water supply the interface issue will mushroom in the future as development reaches further into the foothills.

4.4.3.1.2 Quail Run

The Quail Run Subdivision is accessed via the Collister Road, off Hill Road. Subdividing has occurred over a number of years, with recent development extending further upslope. Many homes have been built on the crest of high ridges, leaving some patches of grass and brush downslope. This exposes some homes along the periphery of development to the potential for uphill fire runs, particularly those with porches extending over the steep slopes.

Human use associated with the housing development along North Bitterbrush Drive, below Quail Run increase the potential for human-caused ignitions in the dry fuels, creating up-hill runs toward the subdivision. Similarly, Quail Heights and Quail Terrace could be at risk from upslope fire runs from ignitions originating from the North Ginzel Street area.

A number of homes in the subdivision have been constructed with cedar shake roofs. Wafting of firebrands onto combustible roofs account for the majority of homes burned during wildfires. Not only does this present a risk to the individual structure, but also to other structures. Firebrands generated from the burning roof can be lofted blocks away, and land in other receptive fuel beds, such as other combustible roofs. Thus, not only are homes immediately adjacent to wildland fuels at risk, but so are other cedar shake homes within the subdivision.

All new homes and recent construction have been utilizing fire-resistant composite roofing material. The majority of these also have adequate defensible space surrounding the home. These homes and the homes with fire-resistant roofing material in the interior of the subdivision are at very little risk, due to green lawns, roads and driveways.

All the homes in the subdivision are accessed via wide, paved roads with cul-de-sacs of adequate turning radius to accommodate emergency vehicles. However, the entire subdivision is accessed at a single point of entrance from Collister Drive. The lack of alternate access and egress routes is of primary concern during a wildland event. Furthermore, the road grade is quite steep, slowing movement of emergency vehicles.

4.4.3.1.3 North Ginzel Street

The homes at the head end of North Ginzel Street are at a high risk to wildland fire. The homes are accessed via a steep, winding, dead-end road without adequate turn-outs or turn arounds. The steepness of the roads would pose a challenge to water-laden emergency vehicles. The lack of alternate escape routes would also preclude suppression efforts in the event of a range fire. The homes are constructed of fire-resistant materials, and fuels tend to be relatively light in the area, somewhat mitigating the risk. Nonetheless, the poor access renders these homes indefensible from fire under most conditions.

As mentioned, fires in this area pose a threat to homes in the Quail Run Subdivision upslope. Steep slopes covered in grass and brush lead from Ginzel Drive upslope to the homes above. Because of the access issues associated with Ginzel Drive, fires starting in this area would have a high probability of escaping initial attack and spreading toward the homes upslope.

4.4.3.1.4 Hillway Drive-North Mountain Road

The Hillway Drive-North Mountain Road area is to the north of Hill Drive. There are a few homes on the periphery of Hillway Drive and North Mountain Road that are abutting grass and rangeland fuels. Often times these fuels are located on relatively steep slopes. As in most areas around the foothills, only the homes on the periphery of the developments are at any risk to loss. Generally, homes are made of fire resistant materials, although some homes in the interior of developments are constructed with shake roofs. Road access is adequate for emergency vehicles, and hydrants are present throughout the area.

4.4.3.1.5 Cartwright Canyon

Cartwright Canyon Subdivision is a new subdivision off Cartwright Canyon Road. The development is within a quarter of a mile of Boise City Station #2. The vast majority of home within the subdivision are at negligible risk to fire, due to choice of construction materials, good access, and proximity of the city fire department. However, there are a few homes above the subdivision with porches extending over steep slopes covered in dry fuels. Although the slopes are relatively short, an ignition during the dry portion of the year would quickly spread to the upslope homes. The large porches overhanging the slopes would likely become involved quite rapidly, possibly resulting in property loss.

4.4.3.1.6 Shaw Mountain-North Ridge

The Shaw Mountain area includes the homes accessed by the Shaw Mountain and Table Rock Roads. The north portion of this area borders Old Fort Boise Military Reserve Natural Park and Cottonwood Creek. These natural areas abound with native vegetation and are a haven for a variety of wildlife species. However, this vegetation would also serve as fuel in the event of fire. The concentrated use of this recreation area increases the potential for human ignitions.

The North Ridge Subdivision off Table Rock Road contains a number of large homes that overlook Cottonwood Creek. Many of these homes have large porches that extend out over the heavy shrub fuels, with little or no break between wildland fuels and the home. An ignition in the heavy brush fuels below would spread rapidly upslope toward the porches. Once involved, the porches would likely transition to the home. Many of these homes also have large picture windows facing the downhill slopes where radiant heating could cause the glass to break, providing an entrance route for firebrands into the home.

An additional risk factor involves the large numbers of homes that have been constructed with flammable cedar shake roofs. This further increases the threat of home ignitions, especially when considering the potential for firebrand generation from the heavy brush fuels below. Wafting of firebrands onto combustible roofs account for the majority of homes burned during wildfires. Not only does this present a risk to the individual structure, but also to other structures. Firebrands generated from the burning roof can be lofted blocks away, and land in other receptive fuel beds, such as other combustible roofs. Thus not only are homes immediately adjacent to wildland fuels at risk, but so are other cedar shake homes within the subdivision.

4.4.3.1.7 Warm Springs Mesa

Warm Springs Mesa is a relatively large subdivision to the north of Warm Springs Avenue. The development is accessed via Starcrest Drive or Starview Drive. The access roads are quite steep for emergency vehicle access. The two points of access do not provide adequate access or egress for the hundreds of homes in the area. Dry grasslands surround the majority of the

subdivision. However, most homes have green grass adequate defensible space around the perimeter, reducing the risk of loss. There are a few homes on the periphery of the subdivision that are lacking adequate defensible space.

4.4.3.1.8 Harris Ranch

The Harris Ranch subdivision is located along East Warm Springs Avenue in the southeast corner of Boise. Many homes along the periphery of development abut high risk rangeland fuels typical of the Boise Foothills. The Maynard Canal and Penitentiary Canal flow along the south and west sides of the subdivision. Riparian fuels along these waterways contribute to the continuous fuel bed surrounding Harris Ranch. As in most areas around the foothills, only the homes on the periphery of the developments are at any risk to loss due to watered lawns, streets, and other fuel breaks within the development. Road access is adequate for emergency vehicles, and hydrants are present throughout the area.

4.4.3.1.9 Hidden Springs and Dry Creek Area

The community of Hidden Springs is a new planned community to the north of Boise. There are multiple access points to Hidden Springs, including Dry Creek of Highway 55, Seaman's Gulch Road, Pierce Park Road, and Cartwright Canyon Road. The community is set in the bottom of Dry Creek, surrounded by the Boise foothills. Home construction has been limited to the gentler, flatter ground in the valley bottom. All homes are accessible by wide roads of adequate size to accommodate emergency vehicles.

Dry rangeland fuels surround the community. However, there are distinct breaks between the urban environment and the wildlands, with adequate defensible space surrounding all the homes. All homes have also been constructed and landscaped using fire-safe methods. A North Ada County Fire and Rescue Station has been established in the community in order to provide emergency services to the community. The community at large is at very little risk to wildland fire.

Future development in the area will increase the exposure of homes and people to wildland fire risk. District fire personnel have concerns regarding water availability in subdivisions planned in the area. Expansion of the hydrant infrastructure is not planned for some areas of development. The inability to tap into a static water supply will reduce fire fighting effectiveness in these new areas of development.

4.4.3.1.10 Mitigation Activities

There are numerous individual homes that are at significant risk to wildland fire loss throughout the foothills area. Many of the factors that contribute to risk are throughout the overall area. These factors generally have to do with the use of **highly ignitable materials in home construction, or lack of defensible space** surrounding the home. Overhanging wooden porches, cedar shake roofing material and exposed wood construction are very common. Frequently, these highly ignitable home attributes are in very close proximity to native or landscaped shrubs and grasses that are very receptive to fire. Large plate-glass windows that would be exposed to significant radiant heat are common as well, increasing home ignition potential. Considering the high spread rates and long flame lengths typical in these fuel types, homes need to be protected prior to fire ignitions, as there is little time to defend a home in advance of brush fire.

Also contributing to risk in the greater foothills area is the lack of **adequate infrastructure** for fire suppression. Inadequate **road access** for large emergency vehicles significantly elevates

risk in many areas. Many developed areas are accessible from a single point, with **no alternate ingress or egress route**. This could lead to considerable traffic congestion during critical times, impeding both access to and evacuation from these areas. More recently, the city and county have been cooperating with fire departments in order to assure road access is adequate. However, if roads are built prior to fire department inspection, there is generally little enforcement by the county.

Water availability is becoming an issue in many developing areas within the county. The county has not been requiring installation of hydrant systems in new developments. This will continue to compromise fire suppression capabilities as development continues.

There are a number of mitigation recommendations that are applicable to all at-risk homes in the Foothills area:

- Public education will continue to be a cornerstone of mitigation programs throughout the district and county. Individual home site evaluations can increase homeowners' awareness and provide the impetus to take measures to improve the survivability of structures in the event of a fire. "Living with Fire, A Guide for the Homeowner" or other literature distributed through the national Firewise program is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space.
- Individual home site evaluations can increase homeowners' awareness and provide the impetus to improve the survivability of structures in the event of a wildfire. Maintaining a lean, clean, green zone within 100 feet of structures is the most effective means of protection against a wildland fire in these fuel types. In cases where cedar shakes have been used in home construction, there are no easy solutions to reducing the vulnerability to fire. In these cases, risk mitigation may require re-roofing with fire resistant roofing materials.
- Where individual or groups of homes are accessed via a single access point, alternate ingress/egress routes should be considered. Furthermore, where existing roads and streets are inadequate for large emergency vehicles, road reconstruction projects that provide for adequate turn-outs and turn-arounds would also help to reduce risk to life and property.
- Increase static water availability through expansion of the existing hydrant system or installation of dry hydrants and draft sites where possible.
- Establishment of green sections around the entire perimeter of developed areas is an excellent means of reducing risk. When constructed in a pedestrian-friendly manner and landscaped in an aesthetically pleasing manner, greenbelts can also increase the desirability of properties by providing recreational opportunities for casual walkers and bike riders while increasing the safety of the entire community.
- At the County level, officials should consider strict regulations on fire use, use of fireworks, and a summer-time ban on all incendiary devices within publicly owned open space. Reducing the number of potential ignition sources will decrease the probability of wildland fire.

4.4.3.2 Eagle

The community of Eagle is located west of Boise along State Highway 44 near Eagle Island State Park. This area is part of the Boise urban complex. Current residential development in the foothills north of the community abuts the wildland-urban interface. There are also still a few

agricultural lots remaining on the north side of the community; however, urban development is continuing in this direction. There is very little risk of wildfire threatening the urban community of Eagle; however, homes located near the WUI are at much higher risk. Additionally, recreational activities on property maintained by the Bureau of Land Management north of the community increases the risk of ignition. Fire mitigation is unnecessary within the vicinity of the urban Eagle area. However, mitigation activities are necessary in areas to the north of Eagle, along the foothills. The recommendations made above for the Boise Foothills are applicable throughout the periphery of Eagle as well.

4.4.3.3 Garden City

Garden City is located on the western end of the Boise metropolitan area. The city center is just north of the Boise River and U.S. Route 20 and 26 and north of the community of Ustick. All of the land in the surrounding area has become part of the Boise urban complex. There are very few, if any, small patches of undeveloped property that may contain remnants of native vegetation (occluded WUI condition). This area is completely urbanized; thus, residents are not at risk of experiencing an uncontrolled wildland fire and mitigation is unnecessary.

4.4.3.4 Kuna-Mora

Kuna is located approximately 9 miles south of Meridian. The primary access into Kuna is on State Highway 69 from Interstate 84. Mora can easily be accessed by taking the Kuna-Mora Road from Kuna, which is also a paved two lane highway. There are several other paved roads, such as Eagle Road and Bennett Road that access these communities from several directions. Almost all of the roads leading into this area are bordered by either homes or agricultural and pastureland making them suitable escape routes.

The small community of Mora is approximately 3 miles southeast of Kuna. Much of this area has been converted to small cereal grains and pastureland. During the growing season these crops remain green and will not support fire spread. However, once cured these crops contribute to the fuel continuity across the landscape. Wide expanses of rangeland extend for many miles south and east of Kuna, with little break in fuel continuity. These large expanses of rangeland fuels present a considerable threat to homes and ranches on the periphery of these communities. Wind driven fires originating in BLM rangelands can easily spread through cured agricultural fields once cured, threatening homes, safety and economic loss to the agricultural community.

The Kuna area experiences a considerable number of wildland fires each year. Fire starts are frequently human caused, although natural ignitions are common as well. A number of large fires have threatened Kuna and the surrounding area, including the Point Fire of 1995. The combination of frequent fire starts and large expanses of rangeland fuel pose a significant wildland fire threat to the Kuna-Mora area.

Water availability is an issue that complicates fire suppression in the Kuna area. Without ready access to a steady supply of water, suppression effectiveness is reduced. Enhancement of water resources is an important step in improving fire suppression in the area.

Mitigation Activities:

There are a number of mitigation activities that can help reduce the wildland fire threat in the Kuna-Mora area. Mitigation activities in addition to these can be found in Chapter 5- Treatment Recommendations.

- Public education will continue to be a cornerstone of mitigation programs throughout the district and county. Individual home site evaluations can increase homeowners' awareness and provide the impetus to take measures to improve the survivability of structures in the event of a fire. "Living with Fire, A Guide for the Homeowner" or other literature distributed through the national Firewise program is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space.
- Individual home site evaluations can increase homeowners' awareness and provide the impetus to improve the survivability of structures in the event of a wildfire. Maintaining a lean, clean, green zone within 100 feet of structures is the most effective means of protection against a wildland fire in these fuel types.
- Vegetation treatment along access roads throughout the area. Currently, dry, cured vegetation and large sage brush is immediately adjacent to the roads within the area. Reducing vegetation through removing brush adjacent to the roadway and mowing of grass and weeds along the road right of way can help reduce the potential for roadway ignitions.
- Augment all season, emergency water supplies through installation of dry hydrants and other means throughout the district. These water sources should be identified and conveyed to all suppression resources in the area.

4.4.3.5 Meridian

The community of Meridian is located between U.S. Route 20 and Interstate 84 just east of State Highway 55. This area is part of the Boise urban complex. There are still a few agricultural lots remaining on the south side of the community; however, urban development is continuing in this direction. There is very little, if any, undeveloped property in the surrounding area that may contain remnants of native vegetation. Due to the lack of wildland fuels, Meridian has very little possibility of residents becoming threatened by wildfire. This area is not part of the wildland-urban interface and fire mitigation activities are unnecessary.

4.4.3.6 Orchard

Orchard is located approximately 5 miles south west of Interstate 84 where it crosses the border between Ada and Elmore County. The Union Pacific Railroad travels directly through what used to be the community center. There are presently only a few homes still remaining in the remnant community of Orchard. A few landowners have cultivated portions of their property and most keep livestock near their homes; nevertheless, the greater part of the area is primarily covered with grasses including non-natives such as cheatgrass and intermittent patches of sagebrush. This area represents fuel models 1 & 2, which tend to support fast-moving, surface fires. Although the Indian Creek Reservoir is located relatively close to the community, it is often dry during the summer months.

The primary access into Orchard is by taking the Orchard Road exit off Interstate 84. This is a paved two lane road that turns to gravel at the railroad tracks and continues southwest to the Ada County National Guard Maneuver Area. A secondary road also travels south along the railroad back to the interstate.

The risk of wildfire threatening Orchard is considerable due to the consistent expanses of grass and range around the community. The possibility of a grass fire occurring due to an ignition as a result of exercises conducted at the nearby Ada County National Guard Maneuver Area is

considerable. The use of the railroad near town and the presence of high tension power lines in the area could also potentially serve as ignition sources. Lack of structural fire protection services and reduced water resources also increase the fire risk to residents.

Mitigation Activities

Because of the elevated risk of wildland fire due to the lack of local fire protection, residents of Orchard should take extra precautions in safeguarding themselves from wildland fire.

- Public education will continue to be a cornerstone of mitigation programs throughout the district and county. Individual home site evaluations can increase homeowners' awareness and provide the impetus to take measures to improve the survivability of structures in the event of a fire. "Living with Fire, A Guide for the Homeowner" or other literature distributed through the national Firewise program is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space.
- Individual home site evaluations can increase homeowners' awareness and provide the impetus to improve the survivability of structures in the event of a wildfire. Maintaining a lean, clean, green zone within 100 feet of structures is the most effective means of protection against a wildland fire in these fuel types.
- Augment all season, emergency water supplies through installation of dry hydrants and other means throughout the district. These water sources should be identified and conveyed to all suppression resources in the area.

4.4.3.7 Pleasant Valley-Owyhee

Pleasant Valley is a cluster of homes and farms south of Boise near Black Creek Reservoir. Owyhee is a remnant community along the Union Pacific Railroad near Pleasant Valley. Presently there are no structures remaining in the Owyhee area. Most of the region surrounding these communities has been utilized for agricultural fields and pastureland, but a few small patches of native sagebrush and grasses still exist. Ten Mile Creek and North Indian Creek provide seasonal water resources for irrigation. Pleasant Valley and the Owyhee area are mainly fuel model 1 with patches of fuel model 2, both of which generally support fast moving surface fires.

The primary access into the Pleasant Valley-Owyhee area is by either the Pleasant Valley Road or the Kuna-Mora Road from Interstate 84. Both of these routes are paved two-lane roads. These roads (and several others traveling into the area) are primarily bordered by agricultural fields or pasture, which significantly reduces their risk of being threatened by uncontrolled wildfire.

The risk of wildfire threatening Pleasant Valley and Owyhee is considerable due to the large expanses of rangeland fuels surrounding these communities. Wind-driven fires originating far away from Pleasant Valley could threaten the community. Furthermore, there is no structural fire protection for residents in the area and water availability is limited in the area.

Mitigation Activities

Because of the elevated risk of wildland fire due to the lack of local fire protection, residents of Pleasant Valley and Owyhee should take extra precautions in safeguarding themselves from wildland fire.

- Public education will continue to be a cornerstone of mitigation programs throughout the district and county. Individual home site evaluations can increase homeowners'

awareness and provide the impetus to take measures to improve the survivability of structures in the event of a fire. “Living with Fire, A Guide for the Homeowner” or other literature distributed through the national Firewise program is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space.

- Individual home site evaluations can increase homeowners’ awareness and provide the impetus to improve the survivability of structures in the event of a wildfire. Maintaining a lean, clean, green zone within 100 feet of structures is the most effective means of protection against a wildland fire in these fuel types.
- Augment all season, emergency water supplies through installation of dry hydrants and other means throughout the district. These water sources should be identified and conveyed to all suppression resources in the area.

4.4.3.8 Star- North Star-Eagle Foothills

The community of Star is located west of Eagle along State Highway 44 near the Ada and Canyon county border. This area is rapidly becoming a part of the Boise urban complex. Star is a fairly small community almost completely surrounded by agricultural development and pastureland. The Boise River and several seasonal canals provide water resources for irrigation. Current residential development in the foothills north of the community abuts the wildland-urban interface. There is very little risk of wildfire threatening the urban community of Star; however, homes located near the WUI are at much higher risk.

The North Star-Eagle Foothills describes the area north of West Beacon Light Road to the Ada and Gem county line and west of State Highway 55 to the Ada and Canyon county line. There is currently a large amount of residential development occurring in this wildland-urban interface. Homes in these subdivisions are generally on very large lots. Horse paddocks and small riding arenas are popular in the area. Many of the homes on the perimeter of these clusters are directly abutting or, in some cases, intermixing with wildland fuels. Low growing sagebrush and various arid climate grass species are native in this environment. Cheatgrass is beginning to out-compete native grasses in some areas around developments due to the soil disturbance. These fuels constitute a fuel model 2, which tends to support fast-moving wildfires, especially when pushed by the wind. The topography of the area is characterized by gently rolling hills that are generally south-facing. Several shallow draws, some of which contain intermittent streams including Big Gulch Creek and Little Gulch Creek run through the area. The Bureau of Land Management maintains some acreage in the lower foothills abutting a few of the newer subdivisions on their northern border. There is also a section of land owned by the state of Idaho near recent developments on the east side of Willow Creek Road.

The primary fire risks to subdivisions in this area are those homes built on the perimeter of the communities directly abutting wildland fuels. Many of these homes are located on the upper slopes with sagebrush and cured grasses mingling between structures. It is possible that a wildfire could spread to these interface communities from fuels to the north; however, it is more probable that a fire would be started within a community and rapidly spread through the dry fuels to homes upslope. Recreational activities on the BLM or state land near subdivisions increase potential ignition sources. Due to unfinished construction, many current residences are located on dead end or cul-de-sac roads. Even though fuels along roadways are generally minimal, one-way in, one-way out access roads are not only dangerous for firefighters, they also increase the likelihood of residents becoming trapped.

The primary access into the area is from West Beacon Road, a paved two-lane route that extends from State Highway 55 to State Highway 16. There are several additional roads accessing the foothills that could serve as potential escape routes. Most of these roads are located in areas with little risk due to the agricultural or pasture land use and urban development.

Road names and house numbers are generally present throughout the area, yet many of the bridges crossing the numerous canals and small streams lack adequate signing and weight ratings. Most residences of the newer developments access water and power through personal wells or city water hook ups and buried power lines; however, a few of the older homes or more distant sites have above ground power. These subdivisions and surrounding areas are protected by the Eagle Fire and the Star Fire Districts.

Assessments for individual developments in the North Star- Eagle Foothills area have been completed to highlight specific attributes that elevate fire risk.

4.4.3.8.1 Triple Ridge Estates and Buckhorn Estates

Both Triple Ridge and the Buckhorn Estates are located on the north side of W. Beacon Light Road. Homes in the Buckhorn Estates are bordered by North Croft Way, Ballentine Road, and Homer Road. There are a few patches of wildland fuels north of this subdivision along Homer Road. The roads accessing Triple Ridge Estates and the interior of Buckhorn Estates are generally cul-de-sacs. Homes in these subdivisions are generally on very large lots with either green, well-manicured lawns or small pastures surrounding structures. There are a few homes on the northern perimeter of the Triple Ridge subdivision that abut wildland fuels.

4.4.3.8.2 Stillwell Estates

The Stillwell Estates is a fairly large, recently developed subdivision located on Willow Creek Road. Many homes in this area border Bureau of Land Management or state of Idaho property, which is predominantly vegetated with sagebrush and cured grasses. Willow Creek Road is the main access route into the area; however, Stillwell Road, Quarter Road, and a few others also provide access. Some of these roads are bordered by native grasses, but most loop back to the main access route making them adequate escape routes. Homes in this area are generally situated on very large lots with either green, landscaped lawns or pasture surrounding structures. Recreational activities on adjacent public lands increase potential sources of ignition. Additionally, wildland fuels still remaining on undeveloped lots within the subdivision put some of these homes at moderate risk of fire.

4.4.3.8.3 Montebello Ridge Estates and Talon Ridge Estates

Montebello Ridge Estates and Talon Ridge Estates are located adjacent to each other north of Homer Road. Montebello Ridge is accessed by Curlew Place Road and Talon Ridge is on Skyline Drive, both of which are dead end roads. These are recently developed, and so far fairly small, subdivisions. There are patches of wildland fuels on vacant lots within the community, and due to the close proximity of Bureau of Land Management property, many residences abut sagebrush and native grass fuels. However, homes in these areas are generally located on big lots with large green lawns surrounding structures. Since both Montebello Ridge and Talon Ridge are accessed by one-way in, one-way out roads, surface fuels along these routes increase the potential fire hazard.

4.4.3.8.4 Chaporral Road

Chaporral Road extends to the east and west of State Highway 16 for approximately 2 miles in both directions before crossing county borders. There are several residences along this route, many of which board livestock on smaller ranchettes. Wildland fuels, including sagebrush and various grass species, commonly abut developed property on the gently rolling hills to the north. Cured grasses and agricultural fields are more common on the south side of the road. Willow Creek flows parallel to Chaporral Road. Several short spur roads accessing homes lack signage and weight rating information on bridges crossing this seasonal water source. In addition, most of these roads cul-de-sac at homes or private drives. Recreational activity on Bureau of Land Management property south of the road increases potential ignition sources. Furthermore, heavy traffic at Firebird Raceway, which is on the west side of Highway 16 just south of Chaporral Road, could also contribute to potential ignition sources and increase the fire hazard to these homes.

4.4.3.8.5 Hillsdale Estates and Chukar Point

The Hillsdale Estates are a newer subdivision covering a large area from Highway 16 to the Ada and Gem county boundary. Chukar Point Estates are located on the southwest border (near the county line) adjacent to Hillsdale Estates. Deep Canyon Road is the primary access route; however, several other roads such as Lanktree Gulch Road and Can-Ada Road, lead into the area. Homes in this subdivision are generally very well kept with large green lawns. A green strip of lawn approximately 20 feet wide is also maintained along portions of the main access routes. There are a few agricultural fields to the south, but most of the area surrounding these subdivisions is covered with sagebrush and cured grasses. There is currently construction occurring on the northern perimeter, which will further extend the development into the wildland-urban interface. The Bureau of Land Management maintains property nearby; thus, recreational activities on these lands could increase potential ignition sources.

4.4.3.8.6 Mitigation Activities

Many of the homes in the Star-North Star-Eagle Foothills are at low risk to wildland fire due to the urban and suburban character of surrounding lands. Green lawns, grazed pastures, city streets and canals isolate dry fuels in small patches. However, as in the Boise Foothills, there are many homes at significant risk to wildland fire loss throughout on the periphery of the communities along the foothills. Factors contributing to overall risk generally have to do with the use of **highly ignitable materials in home construction, or lack of defensible space** surrounding the home. Overhanging wooden porches, cedar shake roofing material and exposed wood construction are very common. Frequently, these highly ignitable home attributes are in very close proximity to native or landscaped shrubs and grasses that are very receptive to fire.

Also contributing to risk in the greater foothills area is the lack of **adequate infrastructure** for fire suppression. Inadequate **road access** for large emergency vehicles significantly elevates risk in many areas. Many developed areas are accessible from a single point, with **no alternate ingress or egress route**. This could lead to considerable traffic congestion during critical times, impeding both access to and evacuation from these areas. More recently, the city and county have been cooperating with fire departments in order to assure road access is adequate. However, if roads are built prior to fire department inspection, there is generally little enforcement by the county.

Water availability is an issue in many areas along the foothills. The county has not been requiring installation of hydrant systems in new developments. This will continue to compromise fire suppression capabilities as development continues.

There are a number of mitigation recommendations that are applicable to all at-risk homes in the Star-North Star-Eagle Foothills area:

- Public education will continue to be a cornerstone of mitigation programs throughout the district and county. Individual home site evaluations can increase homeowners' awareness and provide the impetus to take measures to improve the survivability of structures in the event of a fire. "Living with Fire, A Guide for the Homeowner" or other literature distributed through the national Firewise program is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space.
- Individual home site evaluations can increase homeowners' awareness and provide the impetus to improve the survivability of structures in the event of a wildfire. Maintaining a lean, clean, green zone within 100 feet of structures is the most effective means of protection against a wildland fire in these fuel types. In cases where cedar shakes have been used in home construction, there are no easy solutions to reducing the vulnerability to fire. In these cases, risk mitigation may require re-roofing with fire resistant roofing materials.
- Where individual or groups of homes are accessed via a single access point, alternate ingress/egress routes should be considered. Furthermore, where existing roads and streets are inadequate for large emergency vehicles, road reconstruction projects that provide for adequate turn-outs and turn-arounds would also help to reduce risk to life and property.
- Increase static water availability through expansion of the existing hydrant system or installation of dry hydrants and draft sites where possible.
- Establishment of green sections around the entire perimeter of developed areas is an excellent means of reducing risk. When constructed in a pedestrian-friendly manner and landscaped in an aesthetically pleasing manner, greenbelts can also increase the desirability of properties by providing recreational opportunities for casual walkers and bike riders while increasing the safety of the entire community.
- At the County level, officials should consider strict regulations on fire use, use of fireworks, and a summer-time ban on all incendiary devices within publicly owned open space. Reducing the number of potential ignition sources will decrease the probability of wildland fire.

4.4.3.9 Swan Falls

Swan Falls is a hydroelectric dam (Project #503) licensed by the Federal Energy Regulatory Commission and operated by Idaho Power. This small community is located on the east shore of the Snake River, which serves as the border between Ada and Owyhee counties. There are five government funded residences approximately ¼ mile up river of the dam. A day-use only park with bathroom facilities, picnic area, and interpretive information has been constructed between the dam site and the residence buildings. This area is green and well groomed. There is also a boat launch and trailhead at the base of the dam.

The canyon walls, which are primarily exposed rock, rise vertically from both sides of the Snake River leaving only a thin strip of flatter shoreline for residences and roadways at the base. The

immediate areas surrounding residences and the park are kept green; however, there are a few small patches of cured grass and sagebrush on the lower slopes of the canyon and along a small wash-out area downstream of the dam. The very flat plateau extending from the canyon rim is dominated by low-growing sagebrush and grasses. This constitutes a fuel model 2, which tends to support fast-moving, low intensity surface fires. The entire area for several miles to the north and east of Swan Falls is part of the Snake River Birds of Prey National Conservation Area; therefore, there are no other structures nearby.

Swan Falls Road from Kuna is the primary access into the dam site. This is a paved two lane road that ends after descending the steep canyon wall into the community. There are two secondary roads leading out of the canyon from Swan Falls that provide additional escape routes for residents in the event of a fire. There is also a multitude of small dirt roads that travel in all directions across the Snake River Birds of Prey National Conservation Area. All of these roads are bordered by sagebrush and grasses. Although these fuels burn rapidly, there is only a minor threat to escape routes due to their varying locations in the canyon. Additionally, there are few mitigation activities that would have a positive and measurable impact.

Residents presently maintain good defensible spaces around their homes, the dam, and the visitor's facilities. Keeping these areas clean and green and making sure that all of the access routes are kept open will significantly decrease resident's risk of loss by wildfire. There are no campfire rings in the park area; however, some signage of the wildfire risks associated with campfires near the trailhead would remind users to be cautious in this dry environment.

4.5 Current Planning Efforts in Ada County

Ada County has been proactive in efforts to reduce wildland fire risk by developing both regulatory and guidelines that emphasize fire-safe building practices, as well as development of interagency county-wide response plans to safely and aggressively attack wildland fires when they do occur. The Boise City Foothills Policy Plan and the Ada County Wildfire Response Plan has been developed in an effort to address the wildland fire risk in Ada County.

4.5.1 Boise City Foothills Policy Plan and Wildland-Urban Interface Overlay District

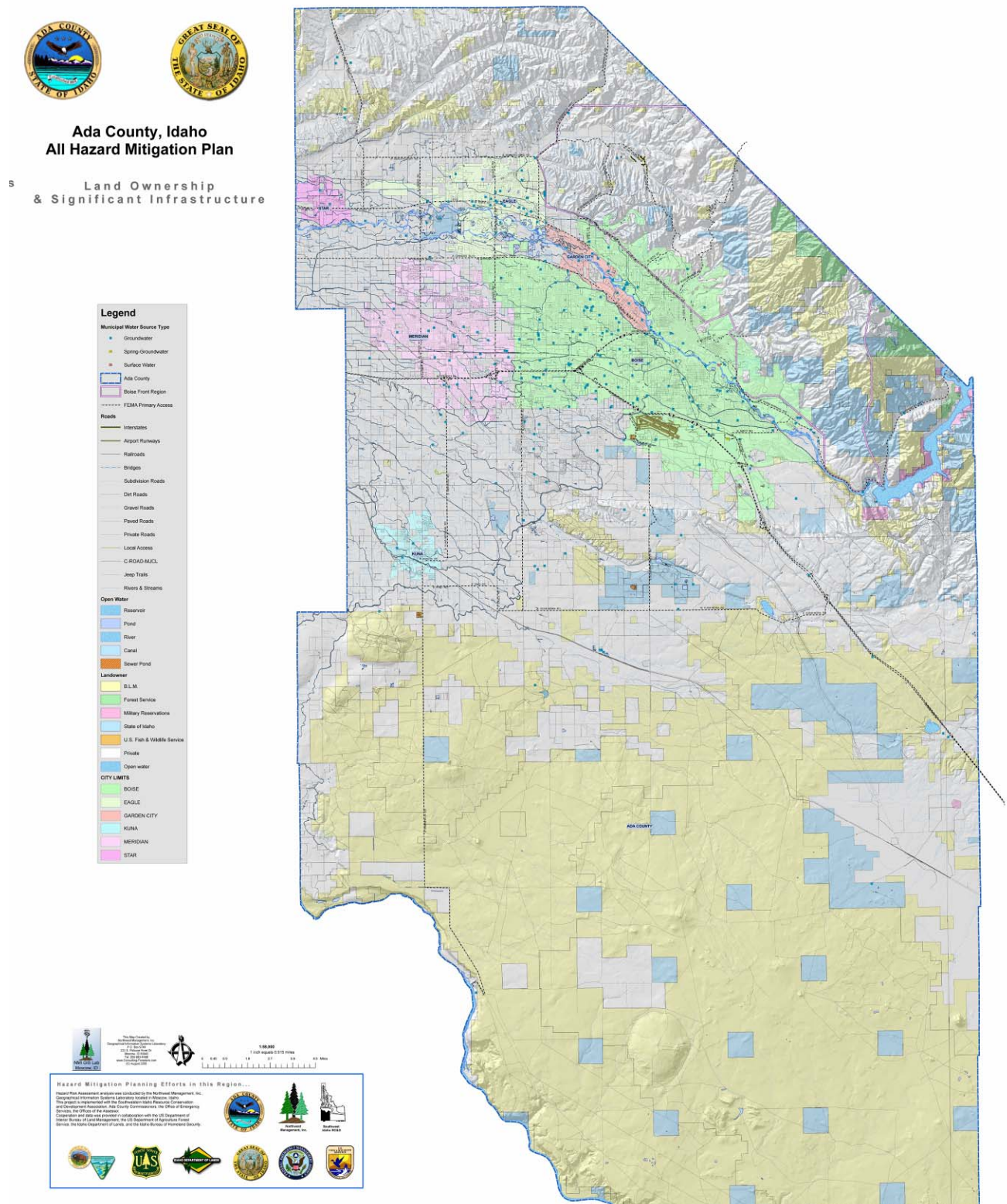
The purpose of the Boise City Foothills Plan of 1997 is to protect and preserve multiple qualities and values of the Foothills while allowing for controlled development. The plan recognizes the constrained to Foothills development, including the wildfire hazard and the need for appropriate subdivision design, street layout, building materials and design, and landscaping. As an amendment of the Boise City Comprehensive Plan, the Foothills Plan has adopted Zoning and Building Codes with specific wildfire prevention provisions.

Ada County has also mapped its High Hazard Area and delineated it as a Wildland-Urban Fire Interface Overlay District with specific requirements for building construction and defensible space. The building requirements, are listed in section 419.3 – 419.12.3 of the Uniform Building Code of 1997 adopted by Ada County. The Zoning Code regulations apply to the area within the Overlay District. Any new construction, alteration, moving, or change of use of a habitable structure is required to establish and maintain a minimum 50-foot defensible space around its perimeter. Within this defensible space buffer zone there can be only single specimens of trees or ornamental vegetation, and cultivated ground cover or grasses up to a maximum height of four inches. All deadwood must be removed from trees, and clusters of trees must be thinned so that the crowns do not overlap. Trees must be pruned up to six feet. Areas adjacent to private roads and driveways must be cleared of vegetation. Areas within five feet on either side of

driveways must be cleared, and the entire width of the easement of private roads must be cleared. Other regulations in the code address the location of liquefied petroleum gas, firewood, and other combustible materials near structures, road access to subdivisions, length of cul-de-sacs and water supply needs for fire flow.

Many of the building requirements that have been designed to increase safety in the wildland urban interface have not been well enforced. Enforcement of these codes is critical in reducing the risk of wildland fire county-wide.

Figure 4.1. Land Ownership in Ada County.



4.5.2 Ada County Wildfire Response Plan

The Ada County Wildfire Response Plan has been developed in order to establish basic procedures for wildfire operations in Ada County in order to protect emergency response workers and the populace in affected areas. The plan has been developed with the recognition that wildfire incidents within Ada County often involve multiple fire suppression departments and agencies. Response to wildfire incidents requires a high degree of interagency cooperation and communication in order to assure the most efficient use of suppression resources. This has led to the development of the Ada County Wildfire Mutual Aid Agreement. The Response Plan has been designed to coordinate and expedite fire control activities and actions between all mutual aid members. This coordinated effort will lead to reduced damage to valued resources due to wildfire incidents.

The plan outlines how interagency responses will be managed, including dispatching procedure, an interagency communications plan, the incident command system, procedures for establishment of unified command as well as a number of other planning components associated with mutual aid responses. The plan also contains a number of safety checklists that help facilitate engagement while assuring safety of responding personnel. The Wildfire Response Plan is a critical tool in addressing the complexities associated with responding to wildland fire events in Ada County.

4.6 Firefighting Resources and Capabilities

The Firefighting Resources and Capabilities information provided in this section (4.5) is a summary of information provided by local Fire Chiefs or Representatives of the Wildland Fire Fighting Agencies listed. Each organization completed a survey with written responses. Their answers to a variety of questions are summarized here. ***In an effort to correctly portray their observations, little editing to their responses has occurred.*** These summaries indicate their perceptions and information summaries.

4.6.1 Wildland Fire Districts

4.6.1.1 Bureau of Land Management, Boise District

- Boise BLM Fire Office, 3948 Development Ave., Boise, 83705; 208-394-3400
- Hammett Guard Station, north of Exit 112 on Interstate 84, 208-366-7722
- Bruneau Guard Station, Hot Creek Road, Bruneau, 208-845-2011
- Wild West Guard Station, Exit 13 off I-84, 208-454-0613

The Department of Interior, BLM, provided funding for this Wildland-Urban Interface Wildfire Mitigation Plan. The Boise District BLM has been involved in Ada County through assistance to local fire districts and national fire prevention programs.

The Boise District BLM encompasses approximately 3.9 million acres of BLM-managed land in southwest Idaho. Through agreements with the Idaho Department of Land and the National Forest Service, the BLM also provides support on IDL and FS lands in some areas within the district boundary. The border of the district extends north from the Nevada border following the Bruneau River fairly closely before heading east along the Saylor Creek Air Force Range boundary to the Elmore County line. Then, it heads north to the confluence of the Snake River. The border follows the Snake River east to the community of King Hill before turning north again following the King Hill Creek drainage to the Township 1S, Range 10E line, where it heads due north to the southwest corner of Section 6. The border, then, stair steps in a northeasterly direction just past the Elmore County line to the Township 2N, Range 12E line; then heads five

miles due west to the Elmore County line. The eastern boundary follows the Elmore County line to where it meets the Blaine County line. The District boundary, then, follows the foothills west and north across the Boise Front; up Highway 55 and includes some scattered areas into the Crouch area; then jogs in a northwesterly direction to the Oregon border west of New Meadows.

Special features within the district include the 485,000-acre Snake River Birds of Prey National Conservation Area; the Owyhee Canyonlands; portions of the north and south fork Payette River corridors; the Owyhee Mountains, including the historic Silver City area; the Bruneau River canyon; and several popular recreation areas and wildland-urban interface areas.

The district's primary station is located in Boise, where 2 crews, with 2 engines per crew are based, along with both helicopter and fixed-wing aircraft resources. One of the two Boise crews is typically stationed during the day at Boise Fire Station #2 at the base of the foothills. Additional day-use stations are available in Kuna, Hidden Springs, and Eagle.

Additionally, the district has out stations at Bruneau, Hammett, and Wild West (at Exit 13 on Interstate 84). Each facility is staffed by one crew, with two to three engines (depending on fire activity and yearly budget), on a 8-hour day, 5-day per week basis (on call 24/7) from mid June to mid September. Bruneau and Hammett will have different days off to provide 7 day coverage between the two guard stations. A dozer has historically been based at Hammett and will be based there when funding is available.

Wild West Guard Station is going to be demolished this spring with plans to build a new station. In the meantime, Wild West will be stationed at the Middleton Station #1 Fire Department in downtown Middleton.

BLM crews are neither trained nor equipped for structure suppression. Primary protection responsibilities are on public land throughout southwest Idaho and the BLM responds to fires originating on public lands and those on private land that threaten public land. Additionally, through mutual aid agreements with local fire departments, the BLM will provide assistance when requested on wildland fires.

The BLM does not provide formal EMT services. The crews are trained in first-aid, and some staff members have EMT and first-responder training, but this is not a service the BLM provides as part of their organization.

Personnel: The fire program staff totals 110-135 individuals, including 20 permanent employees, 40 career-seasonal employees who work up to nine months each year, and 75 seasonal employees on staff from roughly June to September. These are all paid staff members trained in wildland fire, but not in structure protection.

Mutual Aid Agreements: The BLM has an interagency working relationship with the US Forest Service (Boise National Forest and Payette National Forest) and the Idaho Department of Lands and the crews are dispatched on a closest-forces concept to public lands. Additionally, the BLM has mutual aid agreements with 37 community fire departments.

Top Resource Priorities:

- **Training:** Increasing the amount and level of training for and with partner community fire departments .
- **Communications:** Using the Rural Fire Assistance Program to allow departments to purchase radios to facilitate communication, coordination, and safety at the fire scene.

The district encompasses a broad spectrum of resources at risk, including recreation sites, power lines, wildlife habitat, wilderness study areas, wild horse management areas, historic

districts, cultural and archaeological sites, and a range of vegetation types, from rare plant species to sagebrush and timber resources.

Table 4.4. Boise District Equipment List for Wildland Fire Protection.

Assigned Station	Make/ Model	Capacity (gallons)	Pump capacity (GPM)	Type
Boise	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Boise	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Boise	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Boise	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Boise	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Boise	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Boise	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Hammett	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Hammett	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Hammett	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Bruneau	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Bruneau	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Bruneau	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Wild West (exit 13, I-84)	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Wild West (exit 13, I-84)	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Wild West (exit 13, I-84)	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Boise	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Boise	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Boise	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Boise	Ford	Light 300	120 GPM	Wildland

- The Boise District has 3 dozers, one of which is stationed in Hammett (may change in 2005); and two in Boise
- The Boise District also has 3, 3,500 gallon water tenders.
- There are 4 Fire Lookouts, one on Squaw Butte, north of Emmett; one on South Mountain, southeast of Jordan Valley; one on Danskin Peak, north of Mountain Home; and one on Bennett Mountain, northeast of Mountain Home.

Additionally, suppression resources include:

- **Helicopter:** The district has an new compact for 2005 helicopter on contract from June to October and an 11 member helitack crew. U.S. Forest Service helitack crews stationed at Lucky Peak and Garden Valley are available for assistance if needed and if they are not assigned elsewhere. Additionally, there are other helicopter resources equipped for fire missions that are available on a call-when-needed (CWN) basis.
- **Fixed-Wing:** The district has a contract AeroCommander 500S fixed-wing aircraft, staffed by a pilot and the air attack supervisor. The air attack supervisor coordinates aerial firefighting resources and serves as an observation and communications platform for firefighters on the ground.
- **Air Tankers:** There are typically two air tankers (fire retardant planes) on contract in Boise during the fire season. However, these aircraft are considered national resources and are assigned where they're needed at any particular time. These tankers have recently been grounded and may or may not be available for use in the future. Other,

nearby, air tankers are located in McCall and various locations in Nevada and Oregon. There are also contract single-engine air tankers (SEATS) located in Oregon and Twin Falls, Idaho.

The primary operational challenges facing the district include:

- Continued development of wildland-urban interface areas across the district.
- Communications and coordination with current, new, and developing community fire departments and working with them to stay abreast of communication and technological developments so that we can continue and improve working together effectively at the fire scene.
- Internally, an operational challenge is to have sufficient and appropriate staff available throughout the year to foster partnerships with local departments and facilitate continued and improved coordination, training, communications, and other joint efforts with our partners across the district.
- Our effectiveness in addressing these challenges will largely hinge on funding available for the fire program and its various elements.

4.6.2 Local Fire Districts

4.6.2.1 Boise City Fire Department

Table 4.5. Boise City Fire Department Resources.

Structural Engines	14	Type 1	In-service	3 Personnel	E1, E2, E3, E4, E5, E6, E7, E8, E9, E10, E11, E12, E21, E22
Structural Engines	5	Type 1	Reserve	Not Staffed	R1, R2, etc.
Structural Engines	2	Type 1	Training	Not Staffed	
Aerial Platform	2		In-Service	4 Personnel	T1, T6
Aerial Ladder (Tiller)	1		Reserve	Not Staffed	
Quint	1		Reserve	Not Staffed	
Command	3	Suburban	In-Service	1 Person	Batt 1, Batt 2, Batt 3
Wildland Engines	3	Type 4	In-Service	Seasonal	Brush 9, Brush 21, Brush 22
Wildland Squads	2	Type 6	In-Service	Seasonal	Brush 1, Brush 8
Dip Tank Pick-ups	4		In-Service	Per Incident	Dip 2, Dip 7, Dip 9, Dip 12
Water Tender	1	3000 gal	In-Service	1 Person	WT21
Haz Mat	1	Hackney	In-Service	Per Incident	HazMat 12
Haz Com	1	30' trailer	In-Service	Per Incident	HazCom 12
Rescue Trailer	1	Trailer	In-Service	Per Incident	Rescue 7
Rescue Squad	1	Suburban	In-service	Per Incident	Rescue Squad 7

Table 4.5. Boise City Fire Department Resources.

Dive Van & Boat	1		In-Service	Per Incident	Dive 1
ARFF Command	1	Crew p/u	In-Service	1 Person	Smokey 7
ARFF	1	1500 gal	In-Service	1 Person	Smokey 9
ARFF	1	3000 gal	In-Service	1 Person	Smokey 10
ARFF	1	1500 gal	Reserve	Not Staffed	Smokey 8
Foam Flatbed	1	1160 gal	In-Service	Per Incident	Foam 7
Air Trailer	1	SCBA	In-Service	Per Incident	Air
Power/Light Trailer	1	5 kW	In-Service	Per Incident	Power
Rehab	1	Van	In-Service	Per Incident	Rehab

4.6.2.2 Eagle Fire District

Dan Friend, Chief
dfriend@eaglefire.org
Station #4
966 Iron Eagle Dr.
Eagle, ID 83616
208-939-6463

401	Station 4	Type 1 structural engine
402	Station 4	Type 1 structural engine
406	Station 4	Type 1 structural engine
471	Station 4	Heavy Rescue
441	Station 4	Wildland Engine
442	Station 4	Wildland Engine
402	Station 4	Tender
452	Station 4	Suburban- Quick Response Unit
461	Station 4	4x4 Command
462	Station 4	Command
Dive 4	Station 4	Water Rescue
403	Station 8	Type 1 structural engine
440	Station 8	Wildland engine
451	Station 8	Suburban

4.6.2.3 Kuna Fire Protection District

Doug Rosin, Chief
rosind@cableone.net

Station 1
PO Box 607

150 West Boise Ave
Kuna ID 83634
208-922-1144
208-922-1135 fax

Station 2
10600 West Kuna Road
Kuna ID 83634

District Description: Kuna Fire Protection District is responsible for structural and wildland fire protection throughout the district. The abundance of dry, light, flashy fuels requires rapid initial attack before fires develop into large wildland incidents. The department frequently utilizes mutual aid in suppression efforts.

Kuna is staffed 24/7/365 by one person throughout the year. Staffing increases during the summer the day shift to three to four people in order to assure rapid initial attack response during the fire season. The department also utilizes a force of 30 volunteers, who staff apparatus housed at Station 2.

Equipment:

601	Station 1	Structural Class A Pumper
602	Station 1	Structural Class A Pumper
611	Station 2	Structural Class A Pumper
625	Station 1	2,000 gallon Tender
626	Station 2	3,000 gallon pumper/tanker/tender
641	Station 2	Chevrolet 125 gallon Type 6
642	Station 1	Ford 250 gallon Type 6
645	Station 1	Ford 250 gallon Type 6

Mutual Aid: Kuna RFPD is a member of the Intermountain Regional Mutual Aid Agreement. Kuna is frequently involved with mutual aid incidents with the BLM- Boise District during wildland fire events, as well as with other neighboring RFPD's.

Effective Mitigation Strategies: Rapid initial attack and keeping fires small is the most effective means of mitigating resource loss. Increases in both firefighting equipment and water availability are priorities for the district.

Greatest Resource Needs:

- *Procurement of a wildland engine*, preferably Type 3 or 4 with four-wheel drive would help in wildfire responses.
- *Identification and development of water sources* would reduce turn-around time for refilling. Reliable, deep wells need to be identified and developed to allow for drafting or filling in order to eliminate the need to rely on static water sources that are typically far from wildland events.
- *Increases in communication abilities*, particularly in command vehicles during mutual aid responses. Do to the number and differences of frequencies used during mutual aid responses, it is imperative that communication channels remain open between all cooperators. This requires monitoring of multiple channels simultaneously, which can only be accomplished with multiple mobile radios.

- *Increased inter-district training* in order to identify problems such as communication and radio frequencies before an incident.

4.6.2.4 Melba Fire Protection District

Richard Farner, Fire Chief
PO Box 183
Melba, Idaho 83641
Rf21kma@aol.com

District Summary: Melba Fire Protection District is responsible for the structure and wildland fire protection for the southern part of Canyon County as well as the Southwest corner of Ada County.

Priority Areas: The last several years we are experiencing residential growth in the area around Melba

Communications: Communication capabilities in our district are fairly adequate. There are some areas that are difficult to communicate with our dispatch, which is located at the Canyon County Courthouse, Caldwell, Idaho.

Fire Fighting Vehicles: Due to our budget, one of our biggest concerns is replacing some of our aging vehicles such as our tender that runs not only on our fires but is used a lot for mutual aid with other departments.

Burn Permit Regulations: Burn ban periods need to be addressed.

Effective Mitigation Strategies: Future plans are looking into building a 2nd substation in the northern part of our district as well as updating our present tanker.

Education and Training: The Melba Fire Department each year participates in fire safety week with the schools. We also give smoke detectors and install to those that need them. We do training through the state and we have certified wildland trainers in our department.

Cooperative Agreements: Melba Fire Protection has mutual aid agreements with Canyon, Ada and Owyhee Counties as well as with the BLM and IDL.

Current Resources:

1962 American LaFrance	Pumper Engine	1000 gal	750 gmp
2000 Freightliner	Pumper Engine	1000 gal	1250 gpm
1987 GMC	Tanker	3000 gal	350 gpm
1976 Dodge	Brush Truck	300 gal	150 gpm
1986 GMC	Brush Truck	300 gal	150 gpm
1989 GMC	Brush Truck	300 gal	200 gpm with foam
2004 GMC	Brush Truck	300 gal	200 gpm with foam
1993 GMC	Pickup		
1987 GMC	Command Vehicle		

Future Considerations: Updating our tanker to a pumper-tanker combo. Do to the volunteer nature of the department, we need to consider looking into putting full time staff on when budgets will allow.

Needs: More volunteers that can respond to daytime calls. Times have changed over the years and we due need more help in some kind of funding. The public expects more and more and it's extremely hard for volunteer fire departments to keep up with the pace.

4.6.2.5 Meridian Fire Department

Chief Kenny Bowers
bowersk@meridiancity.org

Station 1
540 E. Franklin Rd.
Meridian, ID 83642
208-888-1234

District Summary: The Meridian Fire District is responsible for structural and wildland protection in western Ada County. The District covers approximately 58 square miles. Meridian itself does not have a significant wildland area, however the district does offer mutual aid to many districts with a heavy wildland fire load.

The district has experienced a 200% population increase in the last ten years. This trend is likely to continue into the future.

Communications here in our area are adequate but could be improved.

The department is looking to upgrade one of our grass squads in the near future.

Burn permits are required and we follow the DEQ requirements for materials and allowable burning.

Cooperative Aid: Meridian is involved in several automatic and mutual aid agreements in the valley and also in the intermountain regional mutual assistance plan.

Station 1 Resources:

2002 Pierce Structural Engine. 1000 gal, 1500 gpm.
1983 Pierce Structural Engine. 750 gal. 1500 gpm.
2000 International Tender. 3200 gal. 200 gpm

Station 2 Resources:

2000 Pierce Structural Engine. 1000 gal, 1500 gpm.
1996 Dodge Brush Engine. 300 gal, 200 gpm
1984 Pierce Structural Engine. 1000 gal, 1000 gpm.

Station 3 Resources:

1994 Pierce Structural Engine. 1000 gal, 1500 gpm.
1984 Ford Tender. 1500 gal, 200 gpm.

Greatest Resource Needs:

- Update brush engine at Station 1.
- Construction of new stations in next few years.

4.6.2.6 North Ada County Fire and Rescue

Chief Martin Knoelk
Nacfr.martink@execu.net

208-375-0906

Station 1

5800 Glenwood
Garden City, ID 83714

1993 Pierce Dash Structural Engine 750 gal, 1500 gpm.
2002 Pierce International Tender 2500 gal, 1000 gpm
1985 GMC 1-ton Brush Engine 250 gal, 50 gpm.
1994 BME International 4800 Rescue.

Station 2

3890 Chinden
Garden City, ID 83714

1995 Pierce Arrow Structural Engine 750 gal, 1500 gpm.
1980 American LaFrance Aerial Structure 500 gal, 1200 gpm.
1983 International 4800 Brush Engine 600 gal, 250 gpm.

Station 3

5871 Hidden Springs
Hidden Springs, ID 83714

1983 Pierce Arrow Structural Engine 750 gal, 1500 gpm.
1995 Chevrolet Suburban EMS/QRU

18 full-time, 10 volunteer

Could use ATV for fires along Boise River corridor. Shake roofs along river
Communications in future
No way to enforce codes
Increasing interface with no requirement for water from county
Been improvements in road construction.
City needs to enforce building codes
Cost of keeping up with new technology

4.6.2.7 Star Fire

Star Joint Fire Protection District
Kevin Courtney, Chief
Star-chief@cableone.net
208-286-7772
10831 W. State St.
Star, ID 83669

District Description:

Star Joint Fire Protection District is responsible for structural and wildland fire protection throughout the district. The District has a large amount of urban interface to the north and west of Star. The interface is made up of light flashy fuels that through most of the summer are dry and in a burnable state. Therefore a rapid initial attack is required to stop the fire from growing into a large fire incident. Star Fire utilizes its mutual aid agreements on these large scale

incidents. The District is protected twenty four hours a day seven days a week by both paid and volunteer personnel.

Star Joint Fire Protection District utilizes their mutual aid agreements with BLM - Lower Snake River District and our neighboring departments. Also in return we frequently responded to resource request to assist the BLM - Lower Snake River District with protection of the Boise front.

Equipment:

501	Structural Pumper Tender	2000 gal.
503	Structural Pumper	1000 gal.
541	Type 6 brush squad Hummer	260 gal.
542	Type 4 Heavy brush squad	750 gal.
543	Type 6 brush squad	400 gal.
521	Tender	1200 gal.
551	Rescue squad	
561	Command Expedition 1997	
562	Command Suburban 1995	

Greatest Resource needs:

1. Procurement of a dual fire station in conjunction with the BLM and Star Fire on Highway 16 just south of Firebird Raceway. The station would give us increased response times plus allow BLM to house engine crews through out the summer so that they are staged in more critical areas. To accompany this station, a helipad would be placed near by so that helicopters used for fire fighting efforts would be able to land and coordinate with ground crews to plan their attack.
2. Also the procurement of two water tenders of 3000 gallons would compliment the station and increase the response of water to the scene.
3. An increase in communication abilities so that all crews working on the incident would have the contact with those who are directing the fire fighting efforts.

4.7 Issues Facing Ada County Fire Protection

There are dozens, if not hundreds of issues that contribute to fire occurrence, strain department resources, and otherwise complicate fire suppression throughout Ada County. Very short lists of some issues are presented here.

4.7.1 Recruitment and Retention, Funding, Equipment Needs, Etc.

There are a number of pervasive issues that challenge volunteer districts within Ada County. A short list of such issues include recruitment and retention of volunteers, lack of funding for equipment needs, keeping pace increases in training requirements, as well as numerous other factors that test district's abilities. The members of all fire protection districts should be recognized for the dedication they have shown and the excellent level of protection they provide for residents throughout the county. Volunteers take time out of their lives every day in order to assure the safety of the community.

The demands on volunteer departments are considerable. Keeping pace with ever-increasing training requirements can lead to burn-out of volunteers who are scantily compensated for their time and efforts. Keeping pace with the growing needs of the communities the districts serve is a constant challenge as well. Although there are many potential funding sources available for local districts to acquire equipment and other needs, grant writing and chasing of funding

sources takes considerable time and effort. Recommendations that can help to reduce these challenges will be presented in the Chapter 5: Mitigation Recommendations to follow.

4.7.2 Road Signage and Rural Addressing

The ability to quickly locate a physical address is critical in providing services in any type of emergency response. Minutes can make the difference in home survival during fire events or life and death during medical emergencies. Accurate road signage and rural addressing is fundamental to assure the safety and security Ada County residents. Currently, there are numerous areas throughout the county that are lacking road signs, rural addresses or both. Signing and addressing throughout the county needs to be brought up to NFPA code in order to assure visibility and quick location.

4.7.3 Inadequate Access to Homes and Subdivisions

Fire departments have frequently cited the lack of adequate access to homes and subdivisions as a significant issue in fire suppression efforts countywide. This is particularly true in rapidly developing areas along the foothills. Developers should plan developments with multiple ingress/egress points in order to assure adequate access for fire suppression personnel.

4.7.4 Augmentation of Emergency Water Supplies

Residential growth will likely accelerate in the coming years in all areas of Ada County. Growth will continue to stress rural and wildland fire suppression abilities into the future. It is prudent to address development practices before they become significant issues. Of primary concern to fire departments will be water availability and access. Current county policies do not address these issues adequately, particularly in regard to water availability. Current county codes only require installation of static, pressurized hydrant systems if the water is readily “available” in the area. “Available” has been defined quite loosely and ambiguously up to this point. New subdivisions within ¼ mile of existing water lines have not been installing hydrant systems because the water source is not considered “readily available.” Clearly, county zoning and planning officials need to address this issue in order to assure that new development is built following specifications that will result in a safe and prosperous community.

In many rural areas of Ada County, there are no readily accessible, year-round water resources available for use by local fire districts. Thus, it is necessary for firefighters to keep large amounts of water loaded on trucks at all times. In the event of a larger fire situation, additional water supplies must be transported to the site. The Ada County fire districts feel that establishing permanent augmentations to emergency water supplies is necessary throughout the County. This includes establishment of pressurized water delivery systems in subdivisions as well as establishment dry hydrants and drafting sites where immediate access to water is limited. Retrofitting dependable, year-round irrigation water sources with necessary fittings for use by emergency response equipment would also be highly beneficial. Once developed, these water sources need to be mapped and use agreements need to be made between landowner local fire departments, and the Bureau of Land Management.

4.7.5 Outgrowth of Current Fire Districts

A comprehensive emergency resource plan should be drafted in order to assure development does not out-pace emergency response capabilities. Individual fire district population benchmarks should be established for addition of resources, expansion of staffing levels and building of new stations. Thousands of new homes are expected to be built in the foothills area

and throughout the county. This population increase will likely outpace current district capabilities in the near future.

4.8 Idaho State Fire Plan Working Group 2004 Annual Report

Over the past five years, Ada County and its communities have continued to make strides toward becoming more resilient to wildland fire. The following tables summarized many of the grant monies spent in Ada County from 2001 – 2004.

Figure 4.2. State of Idaho Assistance Summary for 2001 - 2004.

County	Grant Recipient	Granting Agency	2001-2003	2004	Project Description
Ada	Boise City	BLM CAR		\$40,000.00	FIREWISE Landscape Funding for Foothills Environmental Learning Center
Ada	Boise City	BLM CAR		\$3,500.00	Boise Foothills Pamphlet Drop
Ada	North Ada County F&R	FEMA	\$154,534.00		Fire Operations & Firefighter Safety
Ada	Boise City FD	FEMA	\$196,000.00		Firefighting Vehicles
Ada	Boise City FD	FEMA	\$111,755.00		Fire Operations & Firefighter Safety
Ada	Boise City FD	IFCA FFLPF	\$6,500.00	\$3,000.00	2004 Safety Symposium
Ada	Eagle FPD	FEMA	\$27,111.00		Wellness & Fitness
Ada	Eagle FPD	FEMA	\$159,921.00		Fire Operations & Firefighter Safety
Ada	Kuna	IDOCL/FS EA	\$50,000.00		Equipment
Ada	Meridian FD	FEMA	\$29,421.00		Fire Prevention
Ada	Orchard FD	BLM CAR	\$9,000.00		2001 Assessment
Ada	Southwest Idaho RC&D	BLM CAR	\$35,000.00		Wildfire Mitigation Plan
Ada	Southwest Idaho RC&D	BHS		\$43,314.00	All-Hazards Mitigation Plan
Ada	Star Joint FPD	BLM RFA		\$6,288.00	Training/Equipment
Ada	Star Joint FPD	IFCA FFLPF		\$2,000.00	Update Video Delivery (Laptop & Projector)
Ada	Star Joint FPD	BLM RFA	\$10,139.70		Training/Equipment
Ada	Star Joint FPD	BLM RFA	\$1,802.00		Training/Prevention
Ada	Star Joint FPD	BLM RFA	\$3,843.44		Equipment